



### Legend for Figure, Supplemental Digital Content 1

Breathing variables in wildtype and *Phox2b*<sup>27Ala/+</sup> mutant mice exposed to ketamine at P14-16. Mortality (survivors/nonsurvivors) was assessed after experimental Phase 3. All wildtypes survived. Panel A (Phase 1): respiratory variables for wildtypes (empty circles, n=59), survivor mutants (filled circles, n=10) and non-survivor mutants (filled triangles, n=32). The ventilatory response to CO<sub>2</sub> (shaded areas) was severely depressed in mutants. Survivor and non-survivor mutants presented similar breathing patterns in air conditions and in response to CO<sub>2</sub>. Panel B (Phase 2): respiratory variables for survivor mutants and wildtypes after ketamine treatment. In wildtypes, minute ventilation decreased and then progressively returned to pre-treatment level. In contrast, in mutant survivors, ventilatory depression persisted throughout recording period. Panel C (Phase 3): The ventilatory response to CO<sub>2</sub> was markedly depressed in wildtypes, and fully abolished in mutant survivors. Data are mean±S.D.